

**ABSTRACT**

A spot beam hopping packet scheduler system performs efficient switching over links such as hopped spot beams which compete with each other for physical properties and resources. The spot beam hopping packet scheduler system provides statistical weighting and prioritization capabilities while accommodating resource competing links such as wireless hopped spot beams. The spot beam hopping packet scheduler system receives downlink cell ID and packet burst memory pointers from a burst assembly/congestion controller and provides packet burst information to antenna controller and modulators. The spot beam hopping packet scheduler system includes a downlink queue that is coupled to the burst assembly/congestion controller and receives the downlink cell ID and packet burst memory pointers. A cache is coupled to the downlink queue and receives and stores data from the downlink queue. A downlink search controller is coupled to the downlink queue and the cache and includes control logic operative to search the downlink queue for packet bursts, and fill any empty cache slots with appropriate data from said downlink queue. A cache search controller is coupled to the cache and includes control logic operative to search the cache in a pre-configured weighted order for compatible packet bursts based on beam angle interference, beam amplifier power and aggregate target power.